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AUTHOR Cooper, Pamela; And Others
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ABSTRACT

This discussion of the development of children's competency in nonverbal communication is divided into three major sections: (1) review of literature, (2) methodological concerns, (3) implications for teachers. The review of literature focuses on post-1970 studies using non-institutionalized children. Findings are organized according to developmental changes in kinesics, physical characteristics, proemics, touching, paralanguage, artifacts, and environmental factors. The methodology section lists the following concerns: using adult standards rather than child standards to interpret children's behavior; using age as a variable to guide research about nonverbal development; using retrospective speculation about childhood behavior to explain adult behavior; and adopting terms from other disciplines to describe the behavior of children. The section on implications for teachers provides discussion of the following: engaging in more systematic research into the development of nonverbal communication; avoiding an underestimation of the young child's communication capabilities; complementing the developmental stage of the child with communication curriculum; using nonverbal instruction for all levels of education, including preschool; recognizing that the development of nonverbal competency occurs covertly as well as overtly; and recognizing that all teachers, regardless of subject matter, influence a child's communication development. (Author/DB)

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Developing Nonverbal Communication Competencies in Children

Pamela Cooper
Northwestern University

Sheryl Friedley
George Mason University

Lea Stewart
University of Hartford

Hank Tkachuk
Concordia College

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Introduction

In some manner, a newborn infant is changed from a screaming, scrawling neonate to a socialized member of her/his particular society. Central to this socialization process is the child's communicative ability. To a great extent, it is through learning to use and respond to socially mediated signs and symbols that the infant, possessing no culture at birth, becomes socialized (Roberts, 1973). The process of socialization for the infant is a confusing one at best. Exactly how or when the child learn the various knowledges and skills necessary to function successfully in her/his milieu is unknown. As Knapp et al. recently suggested (1978):

> It is difficult to conceive of an adequate understanding of human nonverbal behavior without some explanation of how these behaviors become incorporated into our communicative repertoire and how they manifest themselves throughout the life span. Unfortunately, our understanding of developmental nonverbal behavior lags far behind our understanding of verbal skill development. (p. 278)

It is important to note that not every behavior a child emits is nonverbal communication. Nonverbal communication refers to behaviors other than verbal which enable a child increasingly to understand and to be understood by members of her/his social community (Mayo and LaFrance, 1978, p. 213). Researchers from other disciplines have studied nonverbal behavior, but as communication scholars, we will focus this review on the shared systems of communication rather than on the physiological development of the child.

By the exclusion of verbal behavior, the writers of this paper do not deny its importance in the socialization of the child. The prevalence of nonverbal communication, however, particularly in young children, makes this area an important one for study. Children up to age four tend to send a prominance of nonverbal rather than verbal messages. (See, for example, Brannigen and Humphries, 1972; Rodnick and Woods, 1973). Hopper and Miller (1973) suggest this dependency on nonverbal cues results from a child's lack of knowledge of a complete grammar. Folger (1974) hypothesizes that the child grasps the relationship aspect of communication (nonverbal) before she/he grasps the content (verbal) aspect. Studies reviewed later in this paper support Folger's hypothesis.

In order for an adult to engage in conversation, she/he must learn more than language and grammar. If two individuals are to engage in any sustained verbal interaction, they must share a complex set of rules which regulate behaviors such as introducing and terminating a new topic, interrupting, and responding. In addition, this shared system of rules connects the verbal behavior to specific nonverbal features of the speech situation--for example, "the culturally defined features of interlocutor status, purpose, or function of the interaction, or mode of interaction select appropriate variants of linguistic (features of sentence structure) and non-linguistic (amount of speech, frequency or length of passes, frequency of interruptions and accommodation to feedback) behavior" (Garvey and Baldwin, 1970). In other words, although verbal development is important, necessary, and inextricably entwined with the nonverbal,

nonverbal communication is not only relied upon in early communication interactions, but is also of paramount importance in all communicative situations.

The following discussion of nonverbal communication competency development in children is divided into three major sections: (1) review of literature, (2) methodological concerns, and (3) implications for teachers. Although the review of literature is extensive, it is not exhaustive. The authors have, for the most part, limited the review of literature to studies published since 1970 and using non-institutionalized children as subjects. The review is presented in the form of developmental charts utilizing the following categories: kinesics, physical characteristics, proxemics, touching, paralanguage, artifacts, and environmental factors. Bibliographies follow each developmental chart.

Introduction

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Developmental Chart: Kinesics

General Overview

AUTHOR	AGE	FINDINGS
Ling & Ling (1974)	infant	when infants communicate, they use one nonverbal channel at a time
Caparellari (1958)	18-36 mos.	35% of communication behavior is smiling; 65% gestural overtures toward other children effectively responded to grabbing, use of legs, feet, and whole body-effective gestures toward other children 50% of observed time
Smith & Connelly (1972)	pre-school	talking to others and social play more common among older children; staring, crying, pointing, submissive/ flight behavior more frequent in younger preschoolers
Isaacs (1972) McGrew (1972)	nursery	children joining nursery school group exhibited passivity, hostility (hitting, pushing, pinching) and later cooperative play
DeJong (1974, 1977)	4-5 yrs.	significant increase in kinesic behavior associated with final segment of verbal utterance (leavetaking); children signal their intention to "yield the floor" to their partner
Rekers (1977)	4-5 yrs.	3 gestures (limp wrist, arm flutter, and flexed elbow) found significantly more in females
Zivin (1977)	4-10 yrs.	children frequently direct threats to children perceived as "high status"--by later elementary grades, these threat stares became more subtle
Janovic (1975)	4-15 yrs.	increase in total number of hand and arm movements with increase in age

Kinesics

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Developmental Chart: Affect Displays

Eye Contact

AUTHOR	AGE	FINDINGS
Bloom (1974)	10-14 wks.	responded when the fact they were looking at contained eyes even with an averted gaze; "contingent reinforcements increased the rate of vocalizations only when the infant could see the adult's eyes"; eye contact appears to be a catalyst for the response-reinforcement situation
Bloom (1975)	infant	eye contact needed between adult and child to produce an increase in an infant's vocalizations
Hess and Pick (1974)	nursery	eyes more important sources of information for the perception of face than mouth
Post & Heatherington (1974)	pre-school	both sexes use proximity cues in judging "liking" while neither sex functions above chance in the use of eye contact cues in the judgment of affiliation
Thayer (1977)	6 yrs.	boys reported being looked in the eye by a confederate regardless of which part of the face the confederate observed
Scheman & Lockard (1979)	few wks.-9 yrs.	eye aversion (when being stared at) increases with age
Lord (1974)	7-11 yrs.	can disciminate whether someone is looking them in the eye or just looking at another part of their faces at a level barely above chance

Eye Contact

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Developmental Chart: Affect Displays

Discrimination and Production

AUTHOR	AGE	FINDINGS
Young-Browne, et al. (1977)	3 mos.	could discriminate significantly between "surprise" and "happy"; in some cases, could discriminate between "surprise" and "sad"
LeBarbera (1976)	4-6 mos.	infants looked at the joy expression when shown slides of expressions significantly more than at either the anger or no emotion expressions
Bridges (1932)	3-6 mos.	by three months, infants can distinguish delight and distress; by six months, anger, fear, and disgust
Izard (1971)	2.5 yrs.	able to recognize fundamental emotions, but that it is not until after age five that they can accurately label these emotions
Abramovitch (1977)	pre-school	able to identify correctly if their mothers were interacting with friends or strangers of the same or opposite sex by watching facial expression; could not make judgments concerning an unknown mother
Borke (1971)	3 yrs.	aware of others' feelings
Camras (1977)	kindergarten	there's a significant relationship among facial expressions, subsequent behavior, and respondent behavior
Abramovitch & Daly (1979)	4 yrs.	make accurate judgments about age/familiarity from facial expressions of familiar peers
Buck (1977)	4-6 yrs.	boys inhibit and mask their over responses to emotion to an increasing extent, while girls continue to respond freely
Saari (1979)	6-10 yrs.	older children revealed more complex reasoning concerning why any given particular facial expression was appropriate for the affective and communicative situation
Hamilton (1973)	nursery, 2nd grade, 4th grade	older children were better at recognizing facial expressions; also, they were better able to produce the expressions
Buck (1975)	4-6 yrs.	sending ability positively related to teacher's ratings of the child's activity level, aggressiveness, impulsiveness, bossiness, and sociability and negatively related to shyness, cooperation, emotional inhibition and control--children least able to role-play the emotions of fear and anger, sadness and surprise; best able to role-play happiness

Discrimination and Production (cont.)

AUTHOR	AGE	FINDINGS
Gilbert (1969)	4-6 yrs.	affect awareness in both self and others increases with age and is socially patterned
Odom & Lemond (1972)	kindergarten-5th grade	more correct responses were made in the discrimination than the production task; more correct responses were made to "joy" than to "fear"
Flapan (1968)	6, 9, 12 yrs.	increase in age, better able to make inferences about feelings, thoughts, and intentions of people based on their affect displays

Discrimination and Production

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Developmental Chart: Affect Displays

Relationship Between Face to Face Interaction
And Other Nonverbal Cues

AUTHOR	AGE	FINDINGS
Rosenbloom & Aronson (1971)	1-2 mos.	showed distress when there was a displacement between a face and a voice
Carr, et al. (1975)	2 yrs.	face-to-face contact estimated about 12% of the time; talking and physical proximity increased as visual content decreased
Haskett	3-6 yrs.	verbal responsiveness of confederate produced higher levels of social behavior than did verbal unresponsiveness
Bugenthal, et al. (1970)	5-18 yrs.	for young children, the visual component of the message (how person looked) was of less importance than the verbal content (what was said) or vocal inflections; this trend was strongest for the perception of women's smiles which were seen as neutral or only weakly positive by young children (5-8 yrs.)
DePaulo & Rosenthal (1978)	3rd-6th grade	decoding accuracy increases with age; females more accurate than males

Face to Face/Other Nonverbal

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Developmental Chart: Regulators

AUTHOR	AGE	FINDINGS
Becker (1977)	9 mos.	1/3 of the behaviors an infant directs to his playmate are not responded to
Bridges (1930)	15-18 mos.	"babbling" conversations occur, complete with gestures
Sacks (1966) Ervin-Tripp (1971) Mueller & Rich (1976)	18 mos.	possess an understanding of sequencing and turn-taking rules of conversation
Wellman & Lempers (1977)	2 yrs.	respond appropriately to feedback through verbal and nonverbal channels
Stohl (1978)	2.5-6.5 yrs.	exhibited behaviors of turn yielding, turn maintaining, and turn requesting as well as turn denying
Stayton, et al. (1971) Mueller (1972)	3-5.5 yrs.	use eye contact to designate interest in their conversational partner
Berndt (1979)	pre-school	don't accept reciprocity norms
Maratosos	3-5 yrs.	can take into account listener needs and try to encode properly (for example, if the person is blind-folded or sighted)
Garvey & Hogan (1973) Garvey (1974)	3.5-5 yrs.	most responses are adapted to the speech and nonverbal behavior of their partner
Schenkel & Jackson (1973)	3-5 yrs.	exhibited adult greeting behavior such as eyebrow flash and eye contact
Peterson, et al. (1972)	4-7 yrs.	failed to reformulate their verbal message when confronted with only nonverbal cues such as facial expression of listener incomprehension
Dittman (1972)	1st-5th grades	listener responses to speaker appear less frequently in this age group than in adults or adolescents
Garvey & Baldwin (1971)	5th grade	adults more overt in their closings than are children

Regulators

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Developmental Chart: Emblems

AUTHOR	AGE	FINDINGS
Kumin & Lazar (1971)	3-4.5 yrs.	girls used more emblems than boys; no significant age differences were observed; emblems used most by 3 yr. olds include "I don't know, yes, no I'm tired, come here, stop, naughty, quiet, out, and hello;" emblems used most by 4 yr. olds include "I don't know, no, come here, quiet, out, I won't listen, hello, blowing a kiss, and I won't do it"
Rosenfeld, et al. (1975)	1,3,5 grades	showed developmental improvement in recognizing whether answers were correct or incorrect by watching teacher's nonverbal cues

Developmental Chart: Illustrators

The lack of research concerning illustrators may be due to the child's concentration on language acquisition. Lurie (1961), Strohler and Nelson (1974), and Van Dyne (1974) studied the relationship between verbal and nonverbal behavior in pre-school children (4.5 years old) and 4-6 grade children. These researchers suggest that age (maturity) doesn't seem to be the "key" to the control of nonverbal behavior; rather, verbal communication is the key. In other words, until the child can control her/his verbal behavior, she/he has a difficult time controlling the ronverbal. Thus, illustrators probably aren't utilized until after the child has a fair amount of control over her/his verbal behavior.

Emblems and Illustrators

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Developmental Chart: Physical Characteristics

AUTHOR	AGE	FINDINGS
Dim (1973)	3-6 yrs.	able to discriminate reliable differences between photographs of "attractive" and "unattractive" peers; inferred "attractive" peers more likely to behave pro-socially while "unattractive" peers more likely to behave anti-socially
Langlois & Stephan (1977)	K-4th grades	perceived as "attractive" individuals who were smarter, friendlier, and more likely to share than "unattractive" individuals
Lerner (1972a) (1972b)	5-20 yrs.	subjects at all age levels studied (5-6, 14-15, and 19-20 years) held a predominantly favorable view of mesomorphs and a markedly unfavorable view of endomorphs and a somewhat less negative but still unfavorable view of ectomorphs
Staffieri (1967) (1972)	6-10 yrs.	males viewed mesomorphs as more socially favorable than endomorphs or ectomorphs; the author concludes that by age 6 the stereotype of body build-behavior relationship is set
Kleck, et al. (1974)	9-14 yrs.	differences in perceived physical attractivenss are systematically related to social acceptance in males
Lerner (1969)	10-20 yrs.	males assigned positive behavioral descriptions to the mesomorph body type, while the endomorph and the ectomorph had socially negative behavioral descriptions associated with them

Physical Characteristics

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Developmental Chart: Touching and Proxemics

AUTHOR	AGE	FINDINGS
Cohen & Compos (1974)	10-16 mos.	fathers were superior to strangers as elicitors of attachment behaviors, but second to mothers as elicitors of attachment behaviors
Mueller & Lucas (1975) Mueller & Rich (1974)	12 mos.	gaze and distance important in early social play
Brooks & Lewis (1974)	13 mos.	females look at and maintain proximity with their mothers significantly more often than males; females also tend to touch their mothers more than males
Maccoby & Jacklin (1973)	13-14 mos.	infants' proximity to their mothers increased following a fear stimulus
Castell (1970)	15-36 mos.	infants in an unfamiliar social and physical environment stay significantly closer to their mothers than children in an unfamiliar social but familiar physical environment
Lamb (1976b)	18 mos.	infants under stress with a stranger present showed a preference for their mothers, but less preference than shown by 12-month-olds
Smetana, et al. (1978)	2-5.5 yrs.	children exhibited consistent spacing behavior with a small increase in distance with age
Jacklin & Maccoby (1978)	3 yrs.	children directed more social behavior (both positive and negative) to same-sex playmates than to opposite-sex playmates; girls paired with boys were more likely to stand passively watching their partners or to withdraw toward their mothers than boys in any pairing or girls playing with girls
McGrew & McGrew (1972,1975)	3-4 yrs.	closer proximity with friends than with strangers; pre-school children capable of rapid, short-term adjustment in their spacing behaviors with other group members after introduction; no significant sex differences
Melson (1976)	3-6 yrs.	both females and males associated significantly different distances with "friendly," "angry," and "helpful" feelings; females noted sex differences in determining personal space, placing significantly greater distance between angry male pairs and angry male-female pairs

Touching and Proxmiecs (cont.)

AUTHOR	AGE	FINDINGS
Lomranz, et al. (1975)	3-7 yrs.	three-year-olds have a smaller personal space than five and seven-year-olds; many children at age three actually touched the other child
Eberts & Lepper (1975)	4-5 yrs.	children have developed stable patterns of proxemic behavior in their interactions with others; i.e., they approach female experimentors closer than male experimentors, distance is decreased with social interaction rather than isolate behavior
Beach & Sokoloff (1974)	4-5 yrs.	girls maintain greater distance than boys in free play
Guardo & Meisels (1971a) (1971b)	3-10 grades	praise and reproof affect spatial patterning; praise draws children closer and reproof moves them away from parental figures
Aiello, et al. (1979)	4-11 grades	children more competitive following exposure to crowding; children reported feeling tense, annoyed, and uncomfortable as a function of close proximity to other; males were more affected by the "crowding" variable than females
Guardo (1976)	6th grade	both boys and girls use less personal distance with same-sex peers described with interpersonally attractive characteristics
Whalen, et al. (1975)	6-8 grades	females maintain closer proximity with opposite sex than do males
Willis & Hofmann (1975)	K-6 grades	touch decreases with age; touch is more frequent and a greater variety of body areas are used to touch in same-sex pairs; cross-racial touch is very infrequent
Lerner, et al. (1975)	K-8 grades	greater distances were observed towards endomorphs than mesomorphs or ectomorphs at all grade levels; children tend to come closer to same-sex than opposite-sex stimuli; both sexes maintain greater distances toward females; higher grade levels maintain greater distances than lower grade levels
Willis & Reeves (1976)	junior high	black males more likely to touch in male/male interactions; black females more likely to touch in female/female interactions; in female/male interactions, black girls were significantly more likely to touch boys; in each racial combination, however, the percentage of touch was about half as much as that observed in younger children

Touching and Proxemics (cont.)

AUTHOR	AGE	FINDINGS
Aiello & Cooper (1972)	8th grade	children stood closer to those they rated best-liked than those they rated least-liked
Tennis & Dobbs (1975)	1,9,12 grades college sophomores	increase in proxemic distance with age increase
Baxter (1970)	children-adults	increase in proxemic distance with increase in age

Touching and Proxemics

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Developmental Chart: Paralanguage*

AUTHOR	AGE	FINDINGS
Lewis & Freedle (1972)	3 mos.	some infants, especially females, are able to differentiate if they are the focus of mother's vocalizations
Anderson, Vietz, & Dokecki (1977)		vocal onsets are affected by "mother," but vocal offsets are not; looks at "mother" about 50% of time during vocalizing
Sroufe & Wunsch (1972)	5-6 mos.	laughter brought about by auditory and tactile cues

*Much of the literature has been eliminated because it is developmental rather than communicative in nature. Such literature reflects physiological growth rather than communicative growth.

Paralanguage

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Developmental Chart: Artifacts and Environmental Factors*

AUTHOR	AGE	FINDINGS
Smith & Daglish (1977)	12-24 mos.	boys engage in more active play, play with transportation toys, and in play generally forbidden by parents; girls most often engage in play with soft toys and dolls
Bram (1955)	4 yrs.	children have become aware of patterned character of human behavior and show sensitivity to incongruities of clothes ("You can't wear a wedding dress and go barefoot.") and gestures
Rheingold & Cook (1975)	6 yrs.	room environment affects children's behavior, particularly in developing perceptions of sex roles and appropriate behaviors; boys were provided with objects that encouraged activities directed away from the home while girls were provided objects that encouraged activities directed toward the home

*Much literature exists in this area of nonverbal; however, most studies do not examine artifacts and environmental factors as they relate to communication and, therefore, were eliminated.

Artifacts and Environmental Factors

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Methodological Concerns

A review of the research which focuses on the ontological development of nonverbal communication in children indicates several methodological concerns. While these concerns do not necessarily negate the impact of the research findings and conclusions, such limitations should certainly be considered in light of their effects upon the research results.

First, studies which were not rooted in ontological traditions often assumed the behavior of children to be a developmental stage progressing toward adult-type behavior. As a result, findings are often interpreted on the basis of adult standards rather than appropriate child standards. Knapp (1978) cautions the researcher against basing criteria for judgment on adult standards. For example, Langlois and Downs (1979) observed the behaviors of "attractive" versus "unattractive" three and five-year-old children. The a priori definition of these two conditions, however, were established through adult criteria; thus, the results of their study may be questionable in terms of effective "child" communication. Day and Bissell (1978) provide additional support for this methodological concern when they caution that children are not mini-adults. The four-year-olds in their study did not use adult criteria when making judgments; they did, nevertheless, utilize criteria.

Second, age is a frequent variable which may be misleading in nonverbal research. To "lump" first, third, fifth, and seventh graders together tells us little in terms of development other than in general "gross" terms. Significant developmental changes may occur within months rather than years. In addition, other variables such as sex, social class, intelligence, and ethnic background may influence development more than age.

Third, descriptive terminology used to discuss the behavior of children has been largely the result of terms accumulated from other fields. Frequently, such terms are offered without definition and are subsequently more ambiguous when interpreted by other researchers in later research endeavors. No attempt has been made to standardize terminology and, as a result, such terms may be given meanings which overlap or are used interchangeably with terms which normally represent other behavior.

Fourth, the retrospective explanation of adult behavior through speculation of childhood behaviors suggest such inherent problems as memory inefficiency, non-professional observations, selective perceptions by the subject at the time of the behavior, unwillingness of the subject to disclose certain behaviors, and potential cultural changes in the subject between the time of the behavior and its retrospective revelation. Each of these constraints serve as undesirable filters for accuracy in description. For example, any method which requires a verbal response from the subject places the descriptive accuracy of nonverbal behavior on the verbal abilities of both the subjects and the observer. Such focus in data collection shifts the impact of the findings from a truly nonverbal channel to the combination of both verbal and nonverbal channels. While this constraint is not unique to the study of nonverbal behavior in children, it gains impetus in the study of persons with restricted or non-existent verbal skills.

Methodological Concerns and Implications

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Implications

The first implication of the previous review of literature and discussion of methodological concerns is the need for more systematic research in the developmental approach to nonverbal communication. Unfortunately, many questions remain unanswered. If we as educators are to aid our students in their nonverbal development, we need more information. Perhaps then we can develop the same procedure for outlining nonverbal competencies at each grade level that the Speech Communication Association's National Project on Speech Communication Competencies used in outlining verbal competencies.

The preceding review indicates the development of nonverbal communication proceeds toward greater expressivity, variability, and receptivity of nonverbal communication. It seems probable, based upon this literature review, that the child arrives at school with considerable nonverbal capabilities. Thus, the second implication for teachers is to avoid underestimating the developing child's capabilities as a communicator. Perhaps the child is not competent according to adult standards, but the child may indeed be a competent communicator for her/his age group. Perhaps teachers will eliminate some of their own frustrations, as well as those of their students, if they accept childlike communication as developmentally appropriate.

This is not to say, however, that teachers should not intervene in the child's nonverbal development. Rather, the third implication is that the speech communication curriculum should complement the developmental stage of the child. When teachers accept a child's nonverbal limitations, they can more effectively design activities and experiences appropriate to the child.

A fourth implication for educators is that nonverbal instruction is appropriate for all levels of education. Programs of competency instruction can and should begin at the pre-school level.

A fifth implication is that development of nonverbal competency is a part of the "hidden curriculum" (Connolly and Bruner, 1974). Perhaps children learn more about "appropriate" nonverbal behavior through modeling, imitating, and the socialization process in general than from actual instruction. Thus, teachers should make efforts to be aware of what they communicate nonverbally as well as provide numerous opportunities for peer interaction.

Finally, all teachers, not just speech teachers, influence children's communication development. Speech teachers should become consultants to their faculty--helping teachers from other disciplines understand how they can aid children to develop communicatively.

Implications

Connolly, K. S. and Bruner, J. S. The Growth of Competency. New York: Academic Press, 1974.